

file



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,719	07/12/2000	Seung-Hwan Bae	P-106	2342

7590 04/08/2004

FLESHNER & KIM, LLP
14500 AVON PARKWAY
SUITE 125
CHANTILLY, VA 20151

EXAMINER

BONURA, TIMOTHY M

ART UNIT	PAPER NUMBER
----------	--------------

2114

DATE MAILED: 04/08/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/614,719

Applicant(s)

BAE, SEUNG-HWAN

Examiner

Tim Bonura

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8,10,16,28 and 33 is/are rejected.
- 7) ☒ Claim(s) 2-7,9,11-15 and 17-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

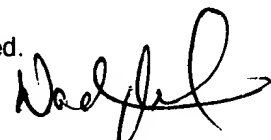
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


NADEEM IQBAL
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 8, 10, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Chung, et al, U.S. Patent Number 6,266,781. Regarding claim 1:

- a. Regarding the limitation of “a first step of transmitting its own state information of either the first or the second processor to mutually another processor (twin) by using different transmission period to each other,” Chung disclose a system that sends a heartbeat to a watchdog daemon running on each computer which supports failure detection. (Lines 30-32 and 39-41 of Column 6). The heartbeat mechanism transmits its own information about application modules crashes and hangs failures. (Lines 43-45 of Column 6).

- b. Regarding the limitation of “a second step of receiving the heartbeat applied from the other processor and recognizing state information of the twin,” Chung disclose a system with means to receive a heartbeat from a processor being watched and to detect functionality of the watched processor. (Lines 43-51 of Column 6).

Art Unit: 2114

- c. Regarding the limitation of “a third step of performing duplication states according to the state information of the twin.” Chung discloses a system with means to replicate the process that is being processed by the primary processor to the secondary processor. (Lines 54-59 of Column 6).
3. Regarding claim 8, Chung discloses a system with means for a watchdog timer to periodically send heartbeat messages to a super watchdog daemon. (Lines 11-12 of Column 7). The super watchdog will receive the heartbeats for the watchdog and if the watchdog does not send a heartbeat the super watchdog assumes the processor has failed. (Lines 12-16 of Column 7).
4. Regarding claim 10:
 - d. Regarding the limitation of “incoming heartbeat processing block for transmitting it own state information of either the first or the second processor to mutually another processor (twin) by using different transmission period to each other,” Chung disclose a system with means to send a heartbeat to a watchdog daemon running on each computer which supports failure detection. (Lines 30-32 and 39-41 of Column 6). The heartbeat mechanism transmits its own information about application modules crashes and hangs failures. (Lines 43-45 of Column 6).
 - e. Regarding the limitation of “incoming heartbeat processing block for receiving the heartbeat from the other processor and recognizing state information of the twin,” Chung disclose a system with means to receive a heartbeat from a processor being watched and to detect functionality of the watched processor. (Lines 43-51 of Column 6).

Art Unit: 2114

- f. Regarding the limitation of duplication FSM processing block for performing duplication states processing according to the state information of the twin.” Chung discloses a system with means to replicate the process that is being processed by the primary processor to the secondary processor. (Lines 54-59 of Column 6).
- 5. Regarding claim 16, Chung discloses a system with means to transmit heartbeats across a network (Lines 40-48 of Column 2), which can send the heartbeats at deferent intervals. (Lines 40-41 of Column 6). A periodic basis that Chung discloses is taken to mean: recurring or reappearing from time to time; intermittent. (From dictionary.com).
- 6. Regarding claim 28:
 - g. Regarding the limitation of “randomly setting a transmission period of at least one message” Chung disclose a system with means to send a heartbeat to a watchdog daemon running on each computer which supports failure detection. (Lines 30-32 and 39-41 of Column 6).
 - h. Regarding the limitation of “wherein said at least one message comprising state information of a first processor,” Chung disclose a system with means to receive a heartbeat from a processor being watched and to detect functionality of the watched processor. (Lines 43-51 of Column 6).
- 7. Regarding claim 29, Chung discloses a system with means to send a heartbeat to a watchdog daemon running on each computer that supports failure detection. (Lines 30-32 and 39-41 of Column 6).

8. Regarding claim 30, Chung discloses a system with means to replicate the process that is being processed by the primary processor to the secondary processor. (Lines 54-59 of Column 6).

9. Regarding claim 31, Chung discloses a system with means for a watchdog timer to periodically send heartbeat messages to a super watchdog daemon. (Lines 11-12 of Column 7). The super watchdog will receive the heartbeats for the watchdog and if the watchdog does not send a heartbeat the super watchdog assumes the processor has failed. (Lines 12-16 of Column 7).

10. Regarding claim 33:

i. Regarding the limitation of “randomly set a transmission period of at least one message” Chung disclose a system with means to send a heartbeat to a watchdog daemon running on each computer which supports failure detection. (Lines 30-32 and 39-41 of Column 6).

j. Regarding the limitation of “wherein said at least one message comprising state information of a first processor,” Chung disclose a system with means to receive a heartbeat from a processor being watched and to detect functionality of the watched processor. (Lines 43-51 of Column 6).

11. Regarding claim 34, Chung discloses a system with means to send a heartbeat to a watchdog daemon running on each computer that supports failure detection. (Lines 30-32 and 39-41 of Column 6).

Art Unit: 2114

12. Regarding claim 35, Chung discloses a system with means to replicate the process that is being processed by the primary processor to the secondary processor. (Lines 54-59 of Column 6).

13. Regarding claim 36, Chung discloses a system with means for a watchdog timer to periodically send heartbeat messages to a super watchdog daemon. (Lines 11-12 of Column 7). The super watchdog will receive the heartbeats for the watchdog and if the watchdog does not send a heartbeat the super watchdog assumes the processor has failed. (Lines 12-16 of Column 7).

Claim Rejections - 35 USC § 112

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

16. Claim 1 recites the limitation "the heartbeat" in the first line of the second limitation. There is insufficient antecedent basis for this limitation in the claim.

Allowable Subject Matter

17. Claims 2-5, 9, 11-15, 17-27, 32, 37 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Applicant's arguments filed 12/30/2003 have been fully considered but they are not persuasive.

19. Regarding arguments for claims 1, 10, 16:

k. The applicant argues that Chung does not teach "a method of transmitting state information of either a first or a second processor by using different transmission periods." The examiner contends that the provide definition "recurring or reappearing from time to time; intermittent. (From dictionary.com)" (see above claims) covers this limitation. The examiner equates the term periodic with the above definition. The examiner contends that the broadest reasonable interpretation of the claims of "using different transmission periods" is disclosed by Chung periodic basis for transmissions.

20. Regarding new claims 21-37 see rejections/objections above. Applicant, for claims 23-37, has presented no arguments.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 2114

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tim Bonura**.

- The examiner can normally be reached on **Mon-Fri: 7:30-5:00, every other Friday off**. The examiner can be reached at: **703-305-7762**.

24. If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, **Rob Beausoliel**.

- The supervisor can be reached on **703-305-9713**.

25. The fax phone numbers for the organization where this application or proceeding is assigned are:

- **703-872-9306 for all patent related correspondence by FAX.**

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

27. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **receptionist** whose telephone number is: **703-305-3900**.

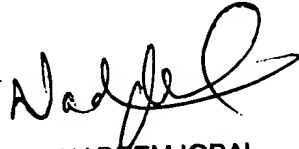
Art Unit: 2114

28. Responses should be mailed to:

o Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450



NADEEM IQBAL
PRIMARY EXAMINER

tmb
April 5, 2004

Tim Bonura
Examiner
Art Unit 2114